

## REMARKS

In the Office Action dated 03 November 2005, claims 1-20, all claims pending in the above-captioned U.S. Patent Application were rejected. Applicants have carefully considered the Office Action and submit the amendments above and the remarks to follow as a full and complete response thereto.

Applicants have amended claims 1, 9 and 14 to specify neutral ligand and preferred cations. Claims 1-20 are submitted for reconsideration as amended.

Applicants previously elected  $\text{Ag}_1$ ,  $\text{Tf}_2\text{N}$  and n-propylamine as the species for initial examination, it being understood that upon allowability of the selected species, examination of the remaining combinations of components shall be commenced.

Claim 1-20 had been rejected under 35 USC112, first paragraph, under the theory of over breadth. Applicants have amended claims 1 and 9 to specify components recited in the specification although the equitable scope reaches to other electron-rich ligands such as olefins and many other cations.

Claims 1 through 3, 8, 9, 11, and 13 through 20 had been anticipated under 35 USC 102(b) over U.S. Patent No. 5,256,821 to Armand on U.S. Patent Number 5,723,664 to Sakaquchi et al.

Armand is directed to methods for the synthesis of sulphonylimide compounds in organic solvents such as acetonitrile, diglyme or DME. The products are not characterized by CHN analysis, mp, IR, solubility or NMR. As best can be discerned, the products are solids, not liquids (cl. col. 7, lines 35-40; and, col. 8 lines 20, lines 46).

Whatever the Armand product is, it is not a liquid in its neat form. Dissolution in a typical solvent such as acetonitrile does not constitute a pure liquid.

Sakaguchi teaches preparation of sulfonimides. As evidenced by the examples, the products salt out as solids, not liquids. Dissolution in methyl cyanide does not render the dissolute a liquid. Nothing in the reference teaches or suggests that the products are ionic, hydrophobic liquids at room temperature.

Sulfonimides, especially perfluorinated sulfonimides, are generally perceived as components in membranes for advanced “batteries.” They are not present as neat liquids and are used in conjunction with some other entity. Most are classic salts or adducts. The ionic liquids disclosed and claimed in this application are not restricted, in claim language or disclosure, to sulfonimides but range over a broad number of electron-donating ligands (viz. crown ethers and olefins). Firstly, they are neat liquids which are a) salts, but b) water insoluble, and c) liquids at room temperature.

These perceived uses are primarily in separation techniques. Uniquely, these liquids may be *inter alia* vehicles for extraction of cations from aqueous media, superseding expensive exchange resins. As such, they are expected to play a significant role in the treatment of radioactive waste.

In peroration, the claimed compounds are unique compounds, vis-à-vis, the compounds of the references cited, have different physical properties and different utilities. The law requires that patented compound shall be new, useful and non-obvious. The references teach different chemical compounds with different properties and uses. Quid erat demonstratum. Expeditious passage to issue is requested.

Respectfully submitted,



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by Jacqueline Beavers

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